

REMARKS

The amendment to the specification is submitted to correct a typographical error.

No new matter has been added.

In the Office Action, claims 1 – 3, 7 – 9, 27 – 29, and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,416,627 to Wilmoth. Claims 4, 6, 30, and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilmoth in view of U.S. Patent No. 6,381,054 to Okayasu. Claims 10 – 12 and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilmoth in view of U.S. Patent No. 4,054,794 to Laughlin. Claims 21 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,969,860 to Mearns. Claim 22 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Mearns in view of Laughlin.

Claims 1 and 27 have been amended to clarify that each laser element within the plurality of lasers is a collimated laser. This amendment is supported by the specification as filed. No new matter has been added.

Regarding establishing a *prima facie* case of obviousness, MPEP § 2143 states:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

As is detailed below, the references cited in the Office Action do not teach or suggest all the claim limitations. Specifically, the Wilmoth reference teaches away from and does

not disclose collimated lasers in a portable laser transceiver, and the Mearns reference does not teach use of a Mangin mirror having a focal point.

Amended claim 1 claims a portable transceiver comprising an input for receiving one or more signals, a frequency modulator to modulate the signals, a splitter to divide the modulated signals into laser data signals, and a plurality of collimated lasers coupled with the splitter to receive the laser data signals. The lasers are displaced from one another and face in parallel directions.

Wilmoth teaches a portable transceiver having an input (20) for receiving one or more signals, a frequency modulator (28) to modulate the signals, and a plurality of LEDs (32) receiving the modulated signals. Wilmoth, however, does not teach or disclose use of collimated lasers in the portable transceiver. Wilmoth in fact teaches that diffuse light is required for the transceiver to operate as intended.

In reference to the prior art, Wilmoth states in the background of the invention:

[A] system wherein infrared signal transmission is used for connecting a controller with a plurality of terminals in a single room. A downlink from controller to terminals is established by irradiating the room ceiling with an array of LED's or lasers located in the controller. The **diffusely reflected signal** is then detected by the receivers in the terminals.

Wilmoth, column 1 at lines 64-68 (emphasis added). Wilmoth thus acknowledges that diffuse light is required by this particular prior art reference in order to provide an optical signal to terminals in a single room. Given the stated desirability for diffuse light, this reference to the prior art does not teach or disclose the desirability of using collimated lasers in such an application.

Wilmoth further teaches that diffuse light is desirable for the disclosed transceiver. In the field of the invention, Wilmoth states that the transceiver may be used to provide

information to automobiles on roadways. Wilmoth does not differentiate between a mobile transceiver and a stationary transceiver, thus teaching that each operates in the same manner. In a mobile transceiver, the light from the transceiver is necessarily diffuse to enable communication with mobile automobiles because no method of tracking moving vehicles is disclosed. Absent a tracking system to point collimated light in the direction of the mobile transceiver, diffuse light is required to enable and maintain communication with a moving transceiver.

In addition, the summary of invention in Wilmoth states, "The light-emitting elements can permit an alignment angle of about 45° at approximately 30 feet by suitable dimensioning of the light-emitting element." Col. 3, ll. 41-44. This requirement is repeated at Col. 6, ll. 56-60, and illustrated in Fig. 5. Thus, in lieu of having any tracking capabilities, Wilmoth enables communication with moving transceivers by using diffused light. Considering the teaching of Wilmoth as a whole, see MPEP 2141.02 (a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention), Wilmoth teaches away from using collimated lasers in the disclosed transceiver. Wilmoth therefore does not teach or disclose all the claim limitations of amended claim 1. Reconsideration of the rejection is requested.

Claims 2-3 and 7-9 are ultimately dependent from amended claim 1 and were also rejected as unpatentable over Wilmoth. Where Wilmoth does not teach or disclose all the claim limitations of amended claim 1, neither does it teach or disclose all the limitations of its dependent claims. Reconsideration of the rejection is requested.

Claim 27 was also rejected as unpatentable over Wilmoth. Like amended claim 1, amended claim 27 includes the limitation that the portable transceiver comprises, among

its elements, collimated lasers. As discussed above, Wilmoth does not teach or disclose this claim limitation. Reconsideration of the rejection is requested.

Claims 28, 29, and 33 are ultimately dependent from amended claim 27 and were also rejected as unpatentable over Wilmoth. Where Wilmoth does not teach or disclose all the claim limitations of amended claim 27, neither does it teach or disclose all the limitations of its dependent claims. Reconsideration of the rejection is requested.

Claims 4, 6, 30, and 32 were rejected as unpatentable over Wilmoth in view of Okayasu. Claims 4 and 6 are ultimately dependent from amended claim 1 and claims 30 and 32 are ultimately dependent from amended claim 27. As discussed above, amended claim 1 and amended claim 27 both include the limitation that the portable transceiver comprises, among the respective elements, collimated lasers, and Wilmoth does not teach or disclose such a limitation. Okayasu also does not disclose this claim limitation. Therefore, Wilmoth in view of Okayasu does not teach or suggest all the claim limitations of claims 4, 6, 30, and 32. Reconsideration of the rejection is requested.

Claims 10-12 and 34 were rejected as unpatentable over Wilmoth in view of Laughlin. Claims 10-12 are ultimately dependent from amended claim 1 and claim 34 is dependent from amended claim 27. As discussed above, amended claim 1 and amended claim 27 both include the limitation that the portable transceiver comprises, among the respective elements, collimated lasers, and Wilmoth does not teach or disclose such a limitation. Okayasu also does not disclose this claim limitation. Therefore, Wilmoth in view of Okayasu does not teach or suggest all the claim limitations of claims 10-12 and 34. Reconsideration of the rejection is requested.

Claim 21 was rejected as unpatentable over Mearns. Claim 21 claims an aperture, a Mangin mirror, a photodiode, and an output from the photodiode. The photodiode is disposed at the focal point of the Mangin mirror.

Mearns discloses an optical system comprised of an aperture, a Mangin mirror, and a detection system. While it is unclear from the disclosure of Mearns whether or not the detection system inherently discloses a photodiode, it is clear that the Mangin mirror disclosed in Mearns is planar and therefore inherently does not include a focal point. Further, the functional operability of the optical system of Mearns depends upon the Mangin mirror disclosed being planar. See Figs. 1 & 2. Mearns thus does not teach or disclose all the claim limitations of claim 21. Reconsideration of the rejection is requested.

Claim 26 was also rejected as unpatentable over Mearns. Claim 26 is dependent from claim 21. Where Mearns does not teach or disclose all the claim limitations of claim 21, neither does it teach or disclose all the claim limitations of claim 26. Reconsideration of the rejection is requested.

Claim 22 was rejected as unpatentable over Mearns in view of Laughlin. Claim 22 is dependent upon claim 21, with the transceiver further comprising a preamplifier coupled with the photodiode and an automatic gain control coupled with the preamplifier and the output. As with claim 21, Mearns does not disclose or teach a Mangin mirror having a focal point. Laughlin also does not teach such a Mangin mirror. Therefore, the combination of Mearns in view of Laughlin does not teach or disclose all the claim limitations of claim 22. Reconsideration of the rejection is requested.

Applicant acknowledges that dependent claims 5, 13 – 20, 23 – 25, 31, and 35 – 40 are directed towards allowable subject matter and would be allowed if rewritten in

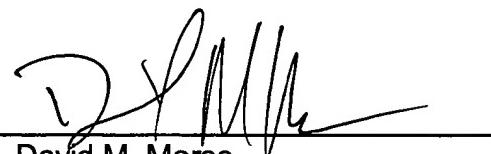
independent form. Applicant reserves the right to submit such claims in independent form at a later date.

Respectfully submitted,

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MARKED UP VERSION OF CLAIMS TO SHOW CHANGES MADE

SPECIFICATION

In a second separate aspect of the present invention, the portable transceiver includes a plurality of lasers displaced [form] from one another and facing in parallel directions. The transceiver includes a photodiode, a fiber optic element sampling the laser diode output and extending to the photodiode and a modulation signal amplifier which is responsive to the output of that photodiode to provide a signal strength feedback loop.

• CLAIMS

1. (amended) A portable transceiver of one or more signals, comprising
an input for receiving the one or more signals;
a frequency modulator coupled with the input and modulating the one or more signals;
a splitter coupled with the frequency modulator to divide the modulated signal into laser data signals;
a plurality of collimated lasers coupled with the splitter to receive the laser data signals, the lasers being displaced from one another and facing in parallel directions.
27. (amended) A portable transceiver of ethernet signals, comprising
an input for receiving one of the ethernet signals;
a splitter coupled with the input to divide the ethernet signal into laser data signals;
a plurality of collimated lasers coupled with the splitter to receive the laser data signals, the lasers being displaced from one another and facing in parallel directions.